

Remarks:

Applicant wishes to thank the Examiner for her detailed comments. As Examiner has grouped her actions by sections, Applicant will respond to these sections one by one.

Claim Rejections –35USC § 102(b):

Examiner has stated that:

“Claims 38-42 are rejected under 35 U.S.C. 102(b) as being anticipated by Strom (US Pat. 5,982,583).

“Strom discloses controlling the crown curvature and camber (cross curvature) of a slider such that the air-bearing surface has a desirable curvature. A laser melts and cools the slider surface generating a curvature on the bearing surface. The crown and camber changes are functions of the laser scan line density and the laser fluence. The slider is mounted while surface is altered. In one embodiment a pulsed YAG laser is used and the laser spot has a diameter of about 40 microns. Smaller diameter laser scanning spots may be used. Additionally, it has been found that increasing the laser fluence (by adjusting the focus and power of the laser beam) and changing the scan direction yields larger anisotropies, that is, curvature changes. Laser fluence may be used instead of power because it accounts for an increase in laser scan line width as the energy of the laser is increased. (abstract, figures, col. 1, lines 65-67, col. 2, lines 12-50, col. 3, lines 26-40, col. 5, lines 4-59, col. 6, lines 13-33, col. 7, lines 33-44, col. 8, lines 4-18).”

As discussed in the Background Art section of the present application, lines 3-24 of page 5, the slider produced in the present invention is free from the tensile stress relief cracks which are specifically produced, and claimed by the Strom patent. In part, this section discloses, in discussing the Strom patent:

“The present inventors regard cracks as undesirable, and should be reduced or minimized in number and size so as not to worsen the surface integrity. The presence of such tensile stress cracks as required by the prior art is an indication that excessive laser power is used to melt excessive amounts of material, and such excessive laser power may damage the sensor which is embedded in the ceramic slider material.

“Although some presence of micro-cracks are inevitable when the surface is made "tensile", preferably any cracks made by laser processing should be only very microscopic micro-cracks, visible with a Scanning Electron Microscope. Such micro-cracks tend to orient randomly. An improved approach therefore is to minimize any tensile stress cracks.”

Claim 38, as currently amended, includes the limitation that the fluence produced by the laser beam is controlled so that parallel tensile stress cracks are not produced in the substrate material. This is a major advantage to the sliders of the present invention, and thus distinguishes the sliders of the present invention from those produced by *Strom*.

Thus, Applicant respectfully asserts that *Strom* specifically teaches away from this feature included in amended Claim 38 and in new Claim 46 and thus cannot be fairly said to anticipate these claims. Since dependent claims 39-45 all inherit this assertedly novel feature, Applicant respectfully asserts that these claims are not anticipated by the cited reference. Applicant therefore respectfully requests that the rejection be withdrawn and claims 38-46 be allowed.

Claim Rejections –35USC § 103:

Examiner has stated that:

“Claim 43 is rejected under 35 U.S.C. 103(a) as being unpatentable over Strom, as stated above.

“Strom does not teach a movable mount for a focusing lens. Strom does disclose the changing of the focus, that thus the lens or workpiece must be moved. The changing of the focus is an apparatus limitation and furthermore, making elements adjustable was held to have been obvious. In re Stevens 101 USPQ 284 and the provision of mechanical or automated means to replace manual activity was held to have been obvious. In re Venner 120 USPQ 192.

“Claim 44 is rejected under 35 U.S.C. 103(a) as being unpatentable over Strom, as stated above, and in view of Khlif (US Pat. 6,662,069).

“Strom does not teach the use of a beam expander. Khlif teaches a slider which has independently controlled crown and cross curvature. The curvature changes on the air-bearing surface are made by use of a laser beam. A fiber optic cable is coupled to a scanner through a system of lenses, which expand the 0.5 mm diameter beam to a collimated beam of about 8 mm in diameter. (abstract, figures, col. 5, lines 65-67, col. 6, lines 1-29) It would have been obvious to one of ordinary skill in the art at the time of the invention to use a beam expander, as taught by Khlif in the Strom system because the very independently controlled crown and cross curvatures which result from beam expansion.

“Claim 45 is rejected under 35 U.S.C. 103(a) as being unpatentable over Strom, as stated above, and in view of Khlif(US 2002/0179861 A1).

“Strom does not teach the mass production of sliders. Khlif discloses the curvature adjustment of sliders using light beams. Once the bearing surface features have been formed the bars are diced along a plurality of dice lines into individual slider bodies. (abstract, figures, 0043) It would have been obvious to one of ordinary skill in the art at the time of the invention to produce a multiples of sliders, as taught by Khlif in the Strom system been this enhances production efficiency.”

As discussed above, Applicant respectfully asserts dependent claims 39-45 all inherit the assertedly novel feature of being formed by a process in which the laser fluence is controlled so that parallel tensile stress cracks are not produced in the substrate material. Thus, Applicant respectfully asserts that this element is not found in any of the cited references, and therefore no combination of references can be said to make the features of these claims obvious. Applicant therefore respectfully requests that the rejection be withdrawn and all claims 38-46 be allowed.

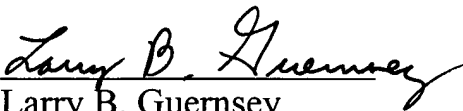
Conclusion:

Applicant has endeavored to put this case into complete condition for allowance. It is thought that the §102 and §103 rejections are unfounded on the claims as amended. Applicant therefore respectfully asks that the rejections be withdrawn and that allowance of all claims presently in the case now be granted.

IPLO
1901 South Bascom Avenue, Suite 660
Campbell, CA 95008

Telephone: 408 558-7887
Facsimile: 408 558-9960
E-mail: lguernsey@iplo.com
LBG:lbg

Respectfully Submitted,


Larry B. Guernsey
Reg. No. 40,008